

**The following claims are presented for examination:**

1     **1. (Original)** An apparatus comprising:

2         a receiver support structure, wherein:

3             said receiver support structure has a central axis; and

4             said receiver support structure supports a plurality of receivers,

5 wherein said plurality of receivers are disposed at a first radial distance

6 from said central axis;

7         a first dispensing element, wherein:

8             said first dispensing element dispenses a first ingredient; and

9             said first dispensing element is disposed above said receiver support

10            structure at said first radial distance;

11         a drive system, wherein:

12             said drive system comprises a first drive; and

13             said drive system causes, via rotary motion, a relative movement

14             between said dispensing element and said receivers; and

15         a system controller, wherein:

16             said system controller comprises means for causing said dispensing

17             element to dispense said first ingredient as a plurality of pulses; and

18             each pulse contains less than twenty percent of a total amount of said

19             first ingredient to be delivered to one of said receivers.

1     **2. (Original)** The apparatus of claim 1 wherein each pulse contains less than  
2 ten percent of the total amount of said first ingredient to be delivered to said one  
3 receiver.

1     **3. (Original)** The apparatus of claim 1 wherein each pulse contains less than  
2 one percent of the total amount of said first ingredient to be delivered to said one  
3 receiver.

1     **4. (Original)** The apparatus of claim 1 wherein each pulse contains less than  
2 one-tenth of one percent of the total amount of said first ingredient to be delivered  
3 to said one receiver.

1     **5. (Original)** The apparatus of claim 1 wherein said drive system is rotatably  
2 coupled to said first dispensing element.

1       **6. (Original)** The apparatus of claim 5 wherein said drive system comprises a  
2 rotatable member, wherein said rotatable member has at least one arm, and wherein  
3 said first dispensing element depends from said arm.

1       **7. (Original)** The apparatus of claim 6 wherein said drive system comprises a  
2 reservoir support structure, wherein said reservoir support structure supports at least  
3 a first reservoir.

1       **8. (Original)** The apparatus of claim 7 wherein said drive system comprises a  
2 drive shaft, and wherein:  
3           said rotatable member is coupled to said drive shaft; and  
4           said reservoir support structure is coupled to said drive shaft.

1       **9. (Original)** The apparatus of claim 8 wherein said drive shaft is hollow, and  
2 further comprising:  
3           said first reservoir; and  
4           a first conduit, wherein said first conduit passes through said drive shaft and  
5 fluidically couples said first reservoir to said first dispensing element.

1       **10. (Original)** The apparatus of claim 1 further comprising a second drive,  
2 wherein said receiver support structure is rotatably coupled to said second drive.

1       **11. (Original)** The apparatus of claim 10 wherein said second drive is  
2 physically adapted to move said receiver support structure in step-wise fashion.

1       **12. (Original)** The apparatus of claim 1 wherein said drive system is rotatably  
2 coupled to said receiver support structure.

1       **13. (Original)** The apparatus of claim 12 further comprising:  
2           a non-rotatable member, wherein said first dispensing element depends from  
3 said non-rotatable member; and  
4           at least a first reservoir, wherein said first reservoir is disposed on said non-  
5 rotatable member.

1       **14. (Original)** The apparatus of claim 1 wherein said receiver support structure  
2 is a platform, wherein said platform comprises a plurality of removable segments,  
3 wherein each segment accommodates one of said receivers.

1       **15. (Original)** The apparatus of claim 14 wherein said removable segments  
2 include a stirrer drive.

1       **16. (Original)** The apparatus of claim 1 wherein said first dispensing element  
2 comprises a nozzle, wherein said nozzle has:

3           an inner passageway leading to an orifice, wherein said inner passageway  
4 receives said first ingredient and dispenses it through said orifice; and

5           a shroud, wherein:

6               said shroud surrounds said inner passageway;

7               said shroud receives a first fluid, and

8               said first fluid controls a flow of said ingredient out of said orifice.

1       **17. (Original)** The apparatus of claim 16 wherein said inner passageway is  
2 characterized by a venturi configuration.

1       **18. (Original)** The apparatus of claim 1 further said plurality of receivers.

1       **19. (Original)** The apparatus of claim 18 comprising a sampling/mixing system,  
2 wherein, said sampling/mixing system comprises:

3           a device for aspirating liquid from, and delivering it to, one of said receivers;

4           a conduit having a first end and a second end, wherein:

5               said first end is coupled to a port in said one receiver; and

6               said second end is coupled to said device for aspirating and delivering

7               liquid.

1       **20. (Original)** The apparatus of claim 19 further comprising an analysis  
2 window, wherein:

3           said analysis window is coupled to said conduit between said first end and

4           said second end; and

5           said analysis window is disposed beneath said receiver support structure.

1       **21. (Original)** The apparatus of claim 20 further comprising an analytical  
2 station, wherein said analytical station is disposed beneath said receiver support  
3 structure, and wherein said analytical station comprises:  
4           an emitter, wherein said emitter emits radiation;  
5           a detector, wherein said detector is coupled to analysis electronics; and  
6           a space between said emitter and said detector, wherein said space defines  
7 a testing region and wherein said testing region is physically adapted to receive  
8 said analysis window.

1       **22. (Original)** An apparatus comprising:  
2           a dispensing system, wherein said dispensing system has a first plurality of  
3 dispensing elements for dispensing a second plurality of ingredients into a third  
4 plurality of receivers;  
5           a drive system, wherein said drive system causes, via a rotary motion, a  
6 relative movement between said dispensing system and said receivers to align one of  
7 said dispensing elements with one of said receivers; and  
8           a system controller, wherein said system controller comprises:  
9               means for causing said dispensing element to dispense each of said  
10 ingredients as a plurality of pulses; and  
11               means for determining flow rate of said second plurality of ingredients  
12 into said third plurality of receivers on a per ingredient, per receiver  
13 basis, said means for determining flow rate comprising:  
14                   a device for measuring total flow of each of said ingredients; and  
15                   means for apportioning said flow on a per ingredient, per  
16 receiver basis.

1       **23. (Original)** The apparatus of claim 22 wherein said system controller  
2 further comprises means for real-time adjustment of flow rate, wherein said means  
3 for real-time adjustment of flow rate comprises means for changing a quantity of  
4 ingredient contained in said pulses.

1       **24. (Original)** An apparatus comprising:  
2           a dispensing system, wherein said dispensing system has a first plurality of  
3 dispensing elements for dispensing a second plurality of ingredients into a third  
4 plurality of receivers;  
5           a drive system, wherein said drive system causes, via a rotary motion, a  
6 relative movement between said dispensing system and said receivers to align one of  
7 said dispensing elements with one of said receivers; and  
8           a system controller, wherein said system controller comprises means for  
9 distributed dispensing.

1       **25. (Original)** An apparatus comprising:  
2           a first drive;  
3           a rotatable member, wherein:  
4               said rotatable member is coupled to said first drive; and  
5               said rotatable member comprises a first arm and a second arm;  
6           a first platform, wherein said first platform:  
7               is disposed beneath said rotatable member;  
8               supports a plurality of receivers; and  
9               is coupled to a second drive;  
10          a second platform, wherein said second platform:  
11               is disposed beneath said first platform;  
12               supports a plurality of reservoirs, and  
13               is coupled to said first drive;  
14          a first dispensing element, wherein said first dispensing element:  
15               depends from said first arm; and  
16               is fluidically coupled to at least a first one of said reservoirs; and  
17          a second dispensing element, wherein said second dispensing element:  
18               depends from said second arm; and  
19               is fluidically coupled to at a second one of said reservoirs.

1       **26. (Original)** The apparatus of claim 25 further comprising:  
2               a first liquid-transport system, wherein said first liquid-transport system delivers a  
3 first liquid from said first reservoir to said first dispensing element; and  
4               a second liquid-transport system, wherein said second liquid-transport system  
5 delivers a second liquid from said second reservoir to said second dispensing element.